COMMODITIES PLANNING

Key Lessons Learned

- **Commodities will be pushed forward before logistical structures are in place.**
- **The critical planning factor for ordering commodities is "distribution" capability, not people without power.**
- **Distribution planning must be a priority with local governments for the commodities mission to be successful.**
- **All levels of government must understand the distribution point concept.**

Key Planning Factors

- Ice – 1 truck load (40,000 lbs, 8 lbs/per) serves 5000 people
- Water – 1 truck load (18,000 liters, 3+liters/per) serves 5000 people
- MREs – 1 truck load (21,744 ea., 2 ea/per) serves 10,000 people
- Tarps – 1 truck load (4,400 ea.) serves 4000 families with roof damage
- 1 car represents 1 family or 3 people
- Each car is provided the following:
  - **2 or 3 bags if ice**
  - **1 case of water (9-12 liters)**
  - **6 MREs**
  - **1 tarp, if they state they have roof damage**

Key Planning Factors, Cont'd

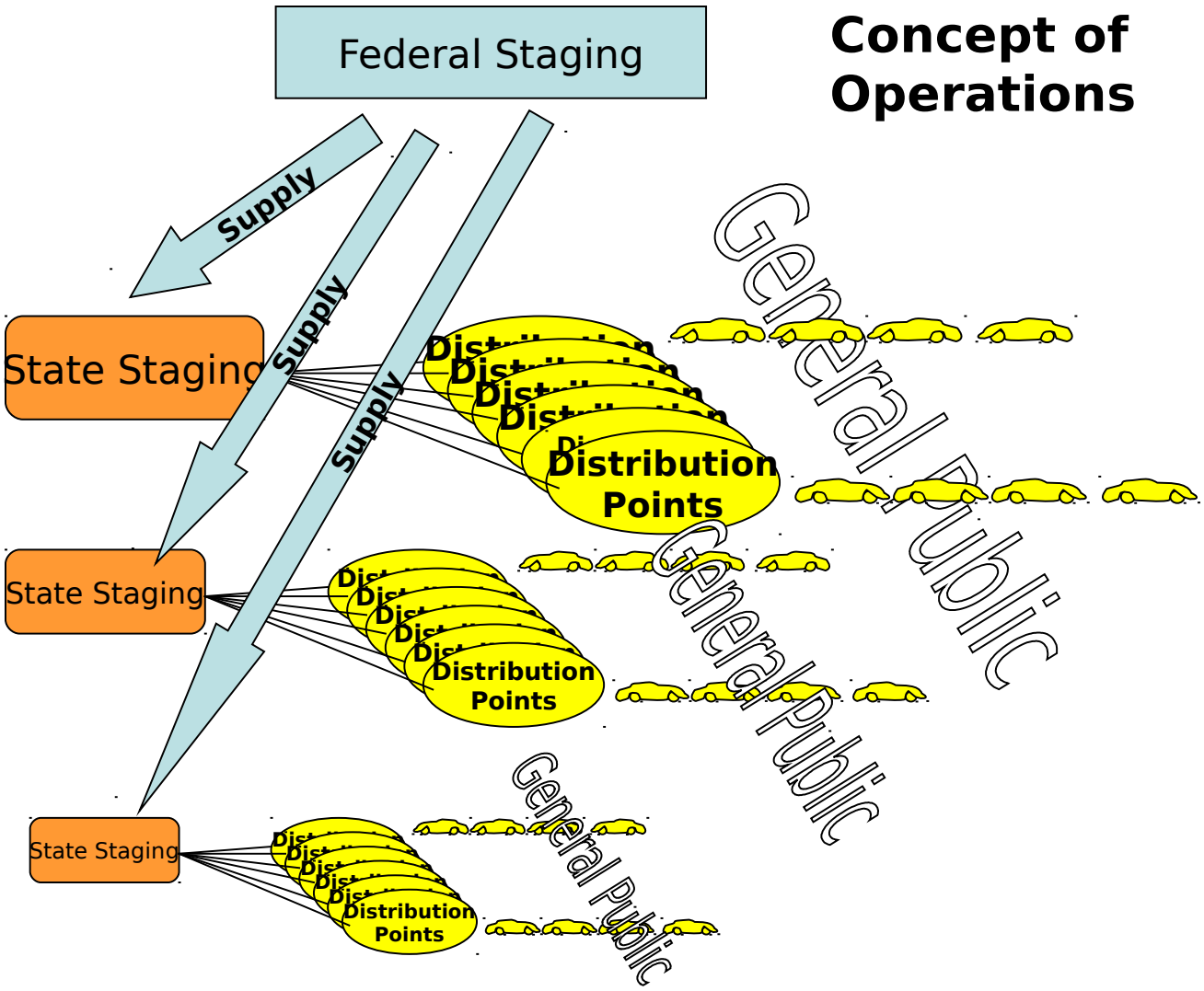
- A distribution point (DP) with one supply lane can serve 1,660 cars or 5000 people in one day, (Type III Distribution Point).
- A Type II DP has two lanes
- A Type I DP has four lanes

1 Truck Load Ice
1 Truck Load Water
½ Truck Load of MREs
1 Truck Load of Tarps

} Serves 5000 People = One Type III DP

IF 50 TRUCK LOADS OF ICE AND WATER ARE ORDERED PER DAY HOW MANY TYPE III DP'S ARE NEEDED?

Concept of Operations



LOADING POINT

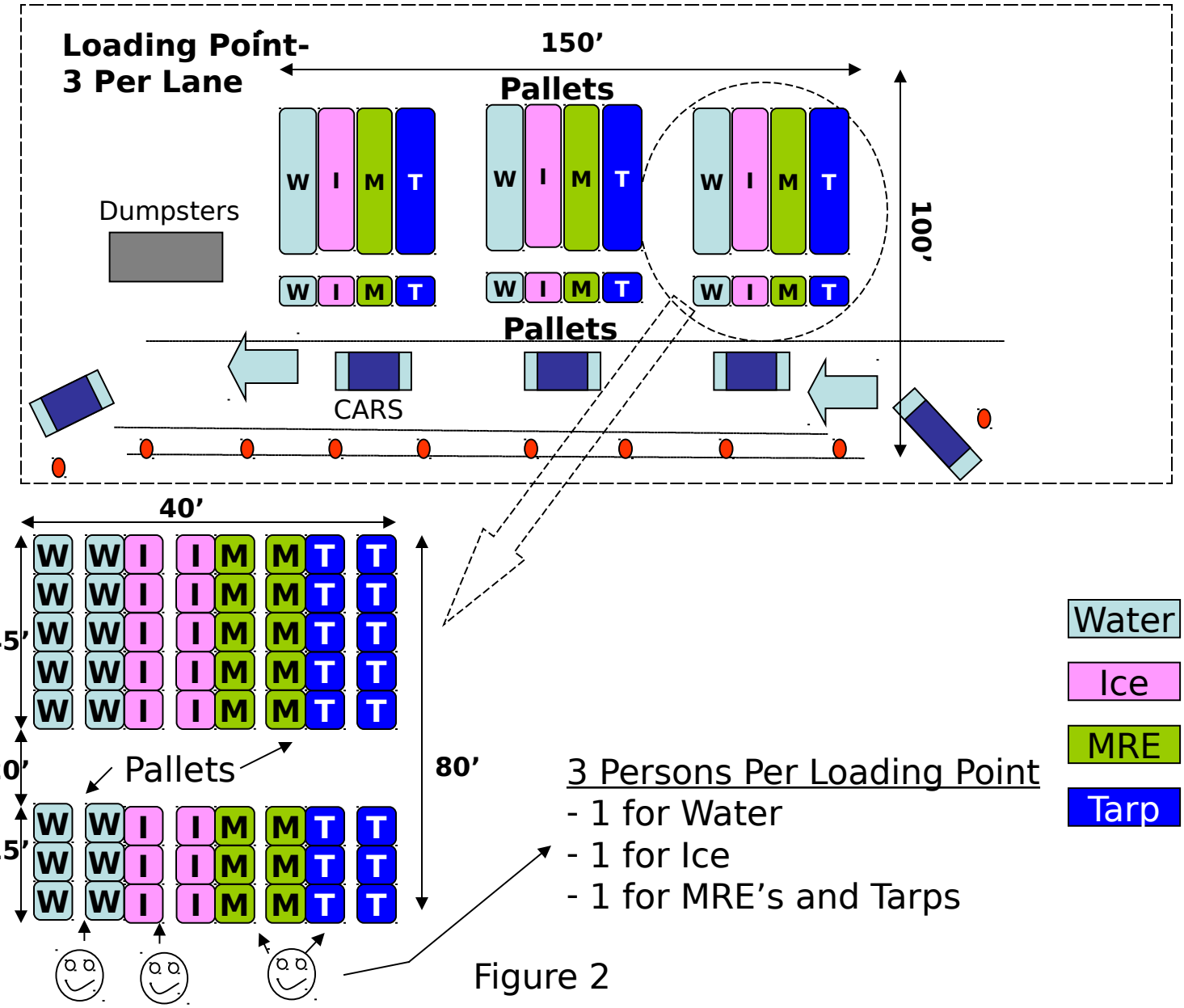
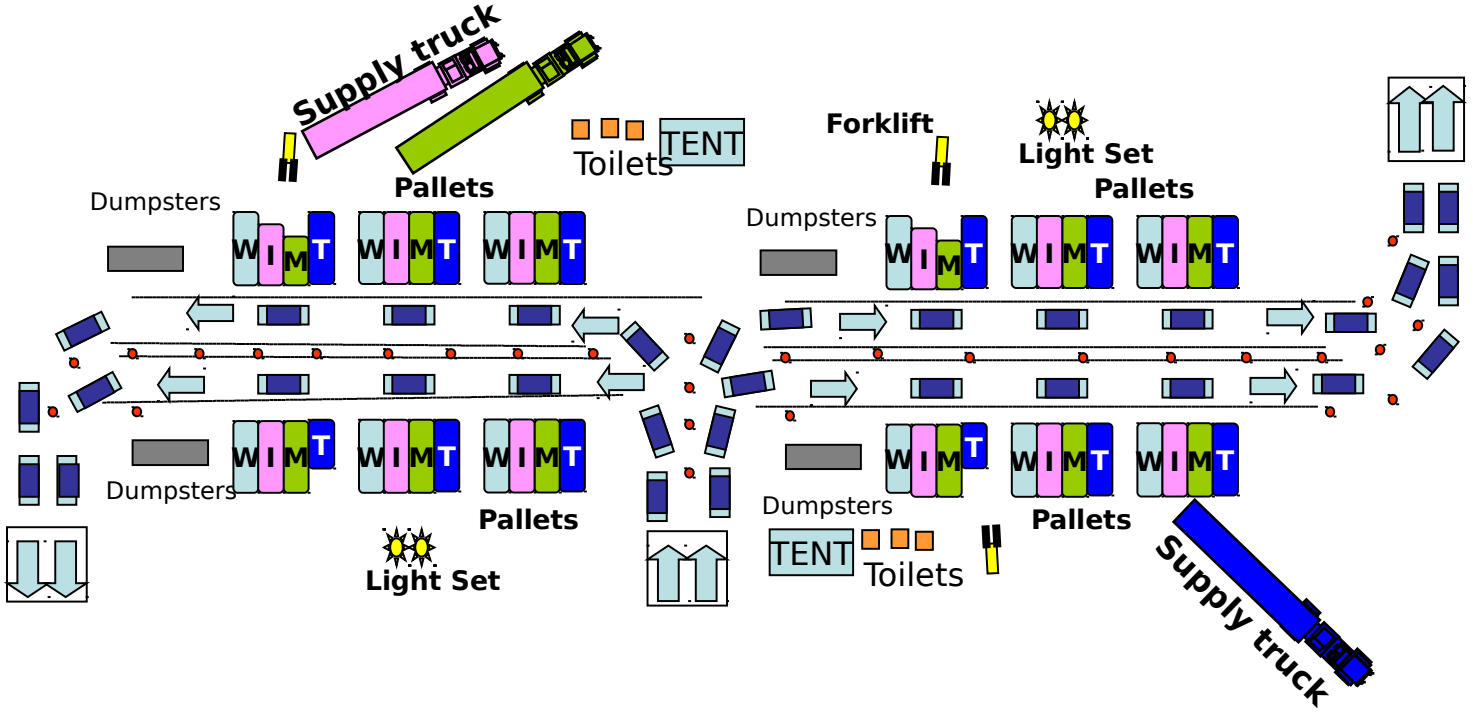


Figure 2

TYPE I - DISTRIBUTION POINT

Serves 20,000 persons per day

12 Loading Points - 560 vehicles per hour



Note: Individual vehicles drive through and Ice & water is loaded into their trunks. Recommend One case water, 2 or 3 bags of ice per vehicle and 6 MRE's.

Supply trucks for Ice, Water, MRE's and Tarps are to be off-loaded promptly and returned for re-supply.

Maximum Loads per Day – Type I

Water	4
Ice	4
MRE	2
Tarp	2

Figure 3

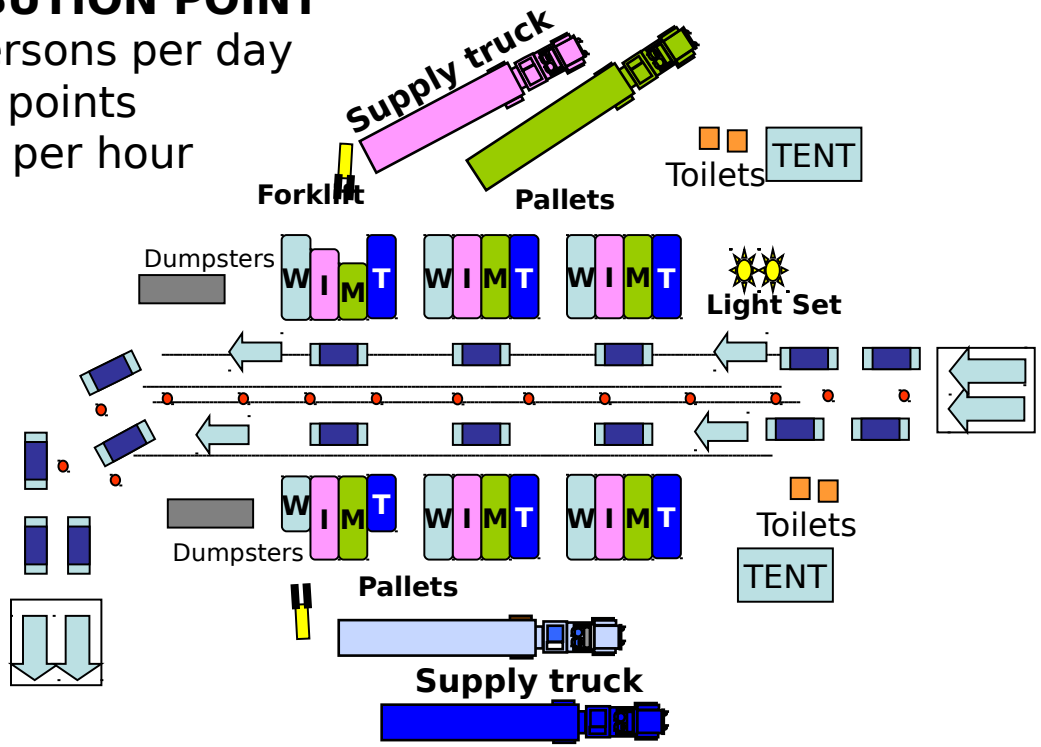
Type I Distribution Point
Resources Required

Type I Distribution Point					
Manpower				Equipment	
	Type	Day	Night	Type	Number
Local Responsibility	Manager	1	0	Forklifts	3
	Team Leader	2	1	Pallet Jacks	3
	Forklift Operator	2	3	Power Light Sets	2
	Labor	57	4	Toilets	6
	Loading Point 36			Tents	2
	Back-up Loading PT 18			Dumpsters	4
	Pallet Jacks Labor 3			Traffic Cones	30
	Totals	70	9	Two-way radios	4
Others	Law Enforcement	4	1		
	Community Rel.	4	0		
Grand Total		78	10		

Figure 4

TYPE II - DISTRIBUTION POINT

Serves 10,000 persons per day
6 Loading points
280 vehicles per hour



Maximum Loads per Day – Type II

Water	2
Ice	2
MRE	1
Tarp	1

Note: Individual vehicles drive through and Ice & water is loaded into their trunks. Recommend One case water, 2 or 3 bags of ice per vehicle and 6 MRE's

Supply trucks for Ice, Water, MRE's and Tarps are to be off-loaded promptly and returned for re-supply.

Figure 5

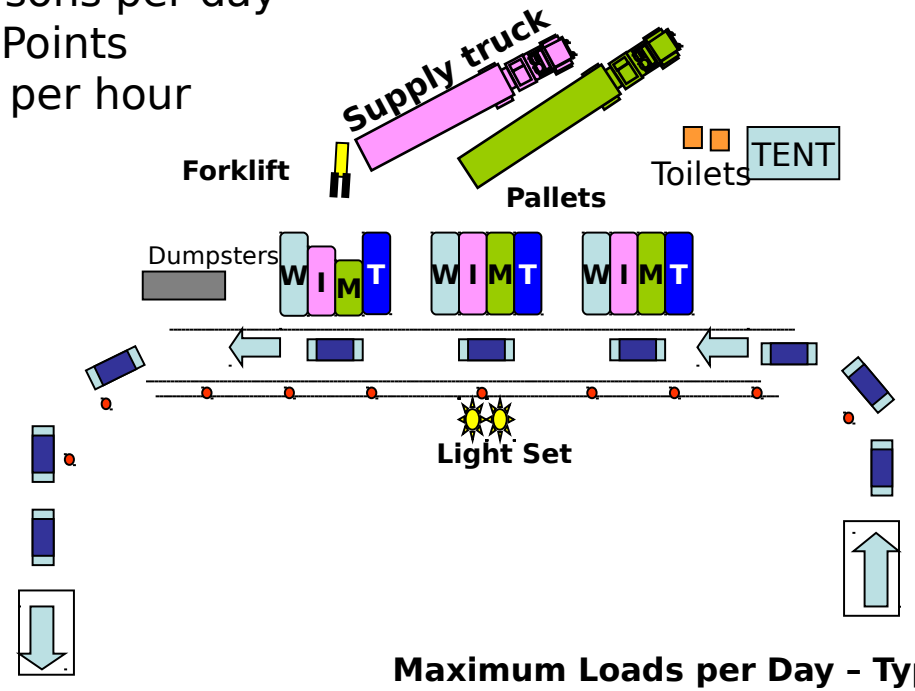
Type II Distribution Point
Resources Required

Type II Distribution Point					
Manpower				Equipment	
Type		Day	Night	Type	Number
Local Responsibility	Team Leader	1	0	Forklifts	2
	Forklift Operator	1	2	Pallet Jacks	2
	Labor	28	3	Power Light Sets	1
	Loading PT 18			Toilets	4
	Back-up Loading PT 9			Tents	2
	Pallet Jacks Labor 1			Dumpsters	2
	Totals	30	5	Traffic Cones	15
Others	Law Enforcement	2	1	Two-way radios	0
	Community Rel.	2	0		
Grand Total		34	6		

Figure 6

TYPE III - DISTRIBUTION POINT

Serves 5,000 persons per day
3 loading Points
140 vehicles per hour



Maximum Loads per Day – Type III

Water	1
Ice	1
MRE	1/2
Tarp	1/2

Note: Individual vehicles drive through and Ice & water is loaded into their trunks. Recommend One case water, 2 or 3 bags of ice per vehicle and 6 M

Supply trucks for Ice, Water, MRE's and Tarps are to be off-loaded promptly and returned for re-supply.

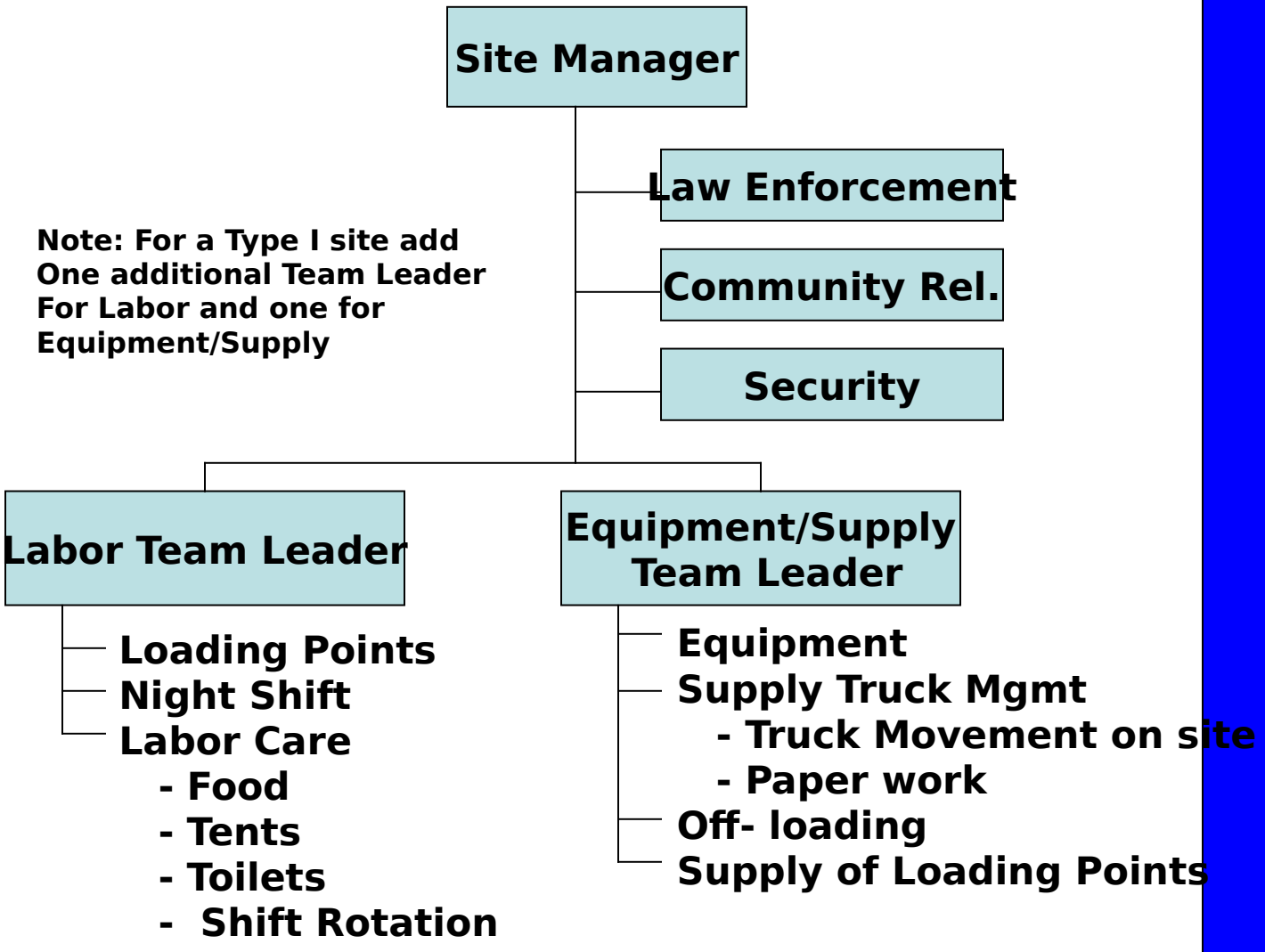
Figure 7

Type III Distribution Point
Resources Required

Type III Distribution Point						
Manpower					Equipment	
Type			Day	Night	Type	Number
Local Responsibility	Team Leader		1	0	Forklifts	1
	Forklift Operator		1	1	Pallet Jacks	1
	Labor		14	2	Power Light Sets	1
		Loading PT 9			Toilets	2
		Back-up Loading PT 4			Tents	1
		Pallet Jacks Labor 1			Dumpsters	1
	Totals		16	3	Traffic Cones	10
Others	Law Enforcement		2	1	Two-way radios	0
	Community Rel.		1	0		
Grand Total			19	4		

Figure 8

ORGANIZATION CHART – TYPE II AND III
DISTRIBUTION POINT SITE MANAGEMENT



Pre-Planning Model

Enter # of people without power	400,000
(Equals number of customers x 3)	
# of people requiring commodities	160,000
# of Type III Dist. Points Req'd	32

	Type III Dist. Point				
Manpower	**Day**	**Night**		**Equipment**	
Local Req.				Forklifts	32
Forklift Oper	32	32		Pallet Jacks	32
Laborers	480	64		Traff Cones	320
Total	**512**	**96**		Light Sets	32
Law Enf	64	32		Toilets	64
Comun Rel	32	0		Tents	32
Grand Total	**608**	**128**		Dumpsters	32

Tarps	
Loads	Each
36	160,000

Number of truck loads required per day for 24 days		**Water**			**ICE**			**MREs**	
	Days	Loads		K Gal	Loads		K Pounds	Loads	Each
	1	32		152.0	32		1280	16	347,904
	2	29		139.0	29		1170	15	326,160
	3	27		125.9	27		1061	13	288,263
72 Hour Planning Total >		88			88			44	
	4	24		112.9	24		951	12	258,443
	5	21		99.9	21		841	11	228,623
	6	18		86.9	18		731	9.1	198,802
	7	16		73.8	16		622	7.8	168,982
60% Power back on-line >	**8**	13		60.8	13		512	6.4	139,162
	9	12		55.1	12		464	5.8	126,115
	10	10		49.4	10		416	5.2	113,069
	11	9.2		43.7	9.2		368	-	-
	12	8.0		38.0	8.0		320	-	-
	13	6.8		32.3	6.8		272	-	-
	14	5.6		26.6	5.6		224	-	-
	15	4.4		20.9	4.4		176	-	-
90% Power back on-line >	**16**	3.2		15.2	3.2		128	-	-
	17	2.8		13.3	2.8		112	-	-
	18	2.4		11.4	2.4		96	-	-
	19	2.0		9.5	2.0		80	-	-
	20	1.6		7.6	1.6		64	-	-
	21	1.2		5.7	1.2		48	-	-
	22	0.8		3.8	0.8		32	-	-
	23	0.4		1.9	0.4		16	-	-
	24	0.0		0.0	0.0		0	-	-
Total Loads		**249.6**		**1185.6**	**249.6**		**9984**	**101**	**2,195,523**

Enter Number of Type III Dist. Points to be used	25
- 1 Type II = 2 Type III	
- 1 Type I = 4 Type III	

Post-Ordering Model

Number of truck loads required per day for 24 days		Water		ICE		MREs		Tarps	
	Days	Loads	K Gal	Loads	K #	Loads	Each	Loads	Each
	1	25	118.8	25	1000	13	271,800		
	2	23	108.6	23	914	11	248,503		
	3	21	98.4	21	829	10	225,206		
Initial Order (72 Hour Planning Total) >		**69**		**69**		**34**		**28**	**125,000**
	4	19	88.2	19	743	9	201,909		
	5	16	78.0	16	657	8	178,611		
	6	14	67.9	14	571	7.1	155,314		
Next Order (next 72 Hour Planning Total) >		**49**		**49**		**25**			
	7	12	57.7	12	486	6.1	132,017		
60% Power back on-line >	**8**	10	47.5	10	400	5.0	108,720		
	9	9	43.0	9	363	4.5	98,528		
	10	8	38.6	8	325	4.1	88,335		
	11	7.2	34.1	7.2	288	-	-		
	12	6.3	29.7	6.3	250	-	-		
	13	5.3	25.2	5.3	213	-	-		
	14	4.4	20.8	4.4	175	-	-		
	15	3.4	16.3	3.4	138	-	-		
90% Power back on-line >	**16**	2.5	11.9	2.5	100	-	-		
	17	2.2	10.4	2.2	88	-	-		
	18	1.9	8.9	1.9	75	-	-		
	19	1.6	7.4	1.6	63	-	-		
	20	1.3	5.9	1.3	50	-	-		
	21	0.9	4.5	0.9	38	-	-		
	22	0.6	3.0	0.6	25	-	-		
	23	0.3	1.5	0.3	13	-	-		
	24	0.0	0.0	0.0	0	-	-		
Total Loads		**195.0**	**926.3**	**195.0**	**7800**	**79**	**1,708,943**	**28**	125,000

QUESTIONS